

**METHODS AND COMPOSITIONS RELATED TO MODULATORS
OF ANNEXIN AND CARTILAGE HOMEOSTASIS**

Abstract

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The present invention provides a method of treating a subject with arthritis or an arthritic disease or preventing arthritis or arthritic disease in a subject, comprising administering to the subject a therapeutically effective amount of an agent that attenuates annexin function. Also provided are various methods of screening for agents and genes that increase collagen synthesis, decrease collagen degradation, or reduce or delay apoptosis, and methods of using the identified agents or nucleic acids for attaining or maintaining cartilage homeostasis, promoting cartilage repair, increasing collagen synthesis, decreasing collagen degradation, or reducing or delaying apoptosis. The invention also provides methods of decreasing mineralization of vesicles derived from chondrocytes and of promoting endochondral bone growth using agents that attenuates annexin function. The present invention also provides a composition comprising isolated chondrocytes, an agent that attenuates annexin function, and collagen fragments or other means for challenging chondrocytes, including for example, collagen fragments, collagen peptides, or immune mediators.